

I CLAIM:

1. A resilient, all-surface sole for footwear, said sole having a bottom, work contacting surface and an upper surface and being formed from a resilient material of substantial thickness located between said surfaces and being subject to compressive deformation, comprising:

a plurality of studs mounted in said sole, each of said studs having an anchor portion embedded in said resilient material, a tip portion extending slightly beyond the plane of said bottom surface of said sole, and a shaft connecting said anchor portion and said tip portion,

said resilient material being non-uniform in its degree of resilience and being less resilient at an exterior portion at said bottom surface of said sole and more resilient at an interior portion of said sole,

said anchor portion being embedded in said sole at said more resilient portion and having a body of said more resilient material positioned between it and said upper surface, so that when said footwear is worn and compressive deformation is applied to said bottom surface of said sole, said tip portion is caused to retract within said sole by force directed by said stud anchor against said more resilient interior portion while said less resilient exterior portion of said sole provides wear resistance when said bottom surface of said sole contacts hard surfaces as said footwear is worn.

2. A sole as claimed in claim 1, in which said resilient material is in the form of layers, a less resilient layer being located at a lower portion of said sole and terminating in said bottom, work contacting surface of said sole and a more resilient layer being located at an upper portion of said sole adjacent said less resilient layer.

3. A sole as claimed in claim 2, in which said anchor portion of said stud is positioned at said more resilient layer.

4. A sole as claimed in claim 2, in which said anchor portion of said stud is embedded in said more resilient layer.

5. A sole as claimed in claim 1, in which said resilient material is in the form of layers, a first, less resilient layer being located at a lower portion of said sole and terminating in said bottom, work contacting surface of said sole, a more resilient layer located at and contiguous with said less resilient layer and extending upwardly therefrom, and a second, less resilient layer contiguous with said more resilient layer, said first and second less resilient layers being adhered to and sandwiching said more resilient layer between them, said stud anchor portion being located at said more resilient layer and having a body of said more resilient layer positioned between it and said upper surface.

6. A sole as claimed in claim 5, in which said stud anchor is embedded in said more resilient layer.

7. A sole as claimed in claim 5, in which said stud anchor is positioned at the juncture of said first less resilient layer and said more resilient layer.

8. A resilient, all-surface sole for footwear, said sole having a bottom, work contacting surface and an upper surface and being formed from a resilient material of substantial thickness located between said surfaces and being subject to compressive deformation, comprising:

a plurality of studs mounted in said sole, each of said studs having an anchor portion embedded in said resilient material, a tip portion extending slightly beyond the plane of said bottom surface of said sole, and a shaft connecting said anchor portion and said tip portion, said tip portions of said studs being formed from metal and having a limited ability to flex without bending or breaking,

said bottom surface of said sole being formed with recesses at the locations where said tip portions extend outwardly from the plane of said bottom surface, so that when said footwear is worn and compressive deformation is applied to said bottom surface of said sole, said tip portions are caused to retract within said sole by force directed by said stud anchors against a resilient interior portion of said sole and said tip portions flex in said recesses formed at said locations where said tip portions extend beyond said sole surface.

9. A resilient, all-surface sole for footwear as claimed in claim 8, in which said recesses are annular in shape, each recess surrounding its tip portion at said sole surface.

10. A resilient, all-surface sole for footwear as claimed in claim 9, in which said recesses extend into said sole surface at least the entire depth of said tip portion.

11. A resilient, all-surface sole for footwear as claimed in claim 9, in

which said recesses extend into said sole surface to a depth of the entire tip portion of said stud and a part of said stud shaft.

12. A resilient, all-surface sole for footwear, said sole having a bottom, work contacting surface and an upper surface and being formed from a resilient material of substantial thickness located between said surfaces and being subject to compressive deformation, comprising:

a plurality of studs mounted in said sole, each of said studs having an anchor portion embedded in said resilient material, a tip portion extending slightly beyond the plane of said bottom surface of said sole, and a shaft connecting said anchor portion and said tip portion,

said resilient material being non-uniform in its degree of resilience and being less resilient at an exterior portion at said bottom surface of said sole and more resilient at an interior portion of said sole,

said anchor portion being embedded in said sole at said more resilient portion, said bottom surface of said sole being formed with a recess at the location where said tip portion extends outwardly from the plane of said bottom surface

so that when said footwear is worn and compressive deformation is applied to said bottom surface of said sole, said tip portion is caused to retract within said sole by force directed by said stud anchor against said more resilient interior portion and said tip portion flexes in said recess formed at said location where said tip portion extends beyond said sole surface while said less resilient exterior portion of said sole provides wear resistance when said bottom surface of said sole contacts a hard surface as said footwear is worn.